ecom-EN2-F

All-rounder for Frequent Flyers (but not limited to)

Product Features

- Up to 4 gas sensors (Longlife)
- ± 100 hPa differential pressure measurement
- Integral thermal quick-printer
- Integral soot measurement (option)
- Backlit display
- Electronic condensate monitoring
- Mini Peltier cooler for professional gas preparation
  with automatic condensate evacuation
- Sampling probe pistol style 300 mm with 3-chamber
  tubing 2.6 m
- Special tubing with Teflon sleeve e.g.
  for NO_x and SO_2 measurements (optional)
- T-Room sensor with magnet for easy fixation on metal
  surfaces
- Emission, temperature and draught measurement
  without plug connection change
- Integral module for data storage on MM card
  (card optional)
- Wireless Bluetooth or Wi-Fi data transfer module
  (option)
- ecom PC software free of charge
- Comprehensive accessory program

Measured values

- O_2 (0-21%)
- CO (0-4000 ppm)
- Gas temperature (0-500°C)
- Air temperature (0-99°C)
- Pressure (± 100 hPa)
- Differential pressure (± 100 hPa)

Options:
- NO measurement (0-5000 ppm)
- NO_2 measurement (0-1000 ppm)
- SO_2 measurement (0-5000 ppm)
- CO extended range (0-10.000 ppm)
- CO% measurement (0-63.000 ppm)
- Soot measurement (electronic soot pump
  and heated soot probe for dry soot samples)
- Differential temperature

Calculated Values

CO_2, $CO_{(undiluted)}$, NO_x, losses, efficiency (0-120%),
dew point, mg/kWh, mg/m³, adjustable O_2 ref.

Display

- LC display, 79 x 53 mm, 240 x 160 dots
- Graphic-capable
- Backlit for optimal reading also in the dark

Sampling Probe

- Sampling probe pistol style 300 mm
- 3-chamber tubing 2.6 m
- Fixation cone with Teflon heat-protective part

Measurement Gas Preparation

- Quick gas transport (measurement values available
  promptly)
- Electric mini Peltier cooler with automatic condensate
  evacuation

Printer

- Thermal quick-printer 58 mm
- Matrix printer (option)

ecom-EN2-F case in Expert or Engine version

NEW: ecom-R remote monitor with data storing / printing
capabilities by distance

Connections

- Multifunctional interface
- USB interface for data transfer
- Bluetooth interface for data transfer (option)

Power Supply

- Battery/Mains power

Operation Safety Features

- Temperature trend indication for core
  stream search
- CO switch off without measurement interruption by
  exceeding of preset limit value
- Automatic fresh air purging by CO exceeding
- Automatic fresh air purging after measurement
- Integral flow meter for optical control of pump
  performance
- Electronic condensate monitoring
- Longlife sensors

Transport

- Hardtop transport case made out of sturdy plastics

Data Processing

- Remote data view & saving as well as printer start via
  ecom-R
- Data logging function
- Data storage on optional MM card (card optional)
- Bluetooth interface (option)
- Wi-Fi interface (on request)
- Storage and illustration of disturbance diagnosis data
  provided via cable connection by ecom-AK read-out head
- Data exchange with ecom PC software

Dimensions / Weight

- Approx. 430 x 170 x 380 mm (L x H x W)
- Approx. 7 kg (complete)

EN 50379-2 and 1st BimSchV approved

ecom-EN2-F Compactness meets robustness!

Item no.	Description
102301	**ecom-EN2-F, super-efficient flue gas analyser with O$_2$ and CO** (H$_2$-compensated) Longlife sensors. Fitted in aluminium housing, complete with pistol style sampling probe 300 mm incl. thermocouple with fixation cone, 3-chamber tubing (2.6 m), T-Room sensor with cable incl. fixing cone with magnet, integral thermal quick-printer, automatic CO switch off and fresh air purge (without measurement interruption), electric Peltier cooler with automatic condensate evacuation, electronic condensate level monitoring, integral power pack with mains power cord approx. 2.4 m, consumables kit, operation manual on USB drive, calibration certificate –issued after 100% calibration in calibration chamber. PC software for data management downloadable free of charge from www.rbr.de
102302	**ecom-EN2-F, super-efficient flue gas analyser** as above but with **integral soot measurement module**
103686	**ecom-EN2-F Expert,** flue gas analyser with O$_2$, CO (H$_2$ compensated), NO, NO$_2$ Longlife sensors, Peltier cooler, integral soot-measurement module, special 3-chamber-tubing for NO$_x$ / SO$_2$ – measurement, large-sized hard-cover transport case
103687	**ecom-EN2-F Engine,** special variant for professional NO$_x$ – measurement at engines, cogeneration plants: application specific pre-settings and features; further information upon request
102412	**NO measurement (0-5000 ppm).** At choice with our without NO$_x$ calculation**.**
100162	**NO$_2$ measurement (0-1000 ppm)** Note: NO$_x$ measurement requires each a NO and a NO$_2$ sensor.
100163	**SO$_2$ measurement (0 – 5.000 ppm)**
102672	**Special 2-chamber sampling tubing,** recommended for NO$_x$ and SO$_2$ measurement Slim inner diameter - high flow speed, length 3.5 m Storable in transport case. Re-plug once for draught measurement
100164	**CO% measurement (0 – 0-63.000 ppm)**
50102221	**CO enhanced ppm measurement range (0-10.000 ppm)**
102308	**ecom-R remote control and monitoring unit.** For data view, data remote recording & printout via Bluetooth.LCD display, dim. ca. 70 x 38 mm, backlit, graphic-capable With magnet on the back for fixation on metal surfaces. Powered by 2 one-way batteries 1.5 V AA Mignon (incl.) incl. protection pouch. dim.: approx. 145 x 80 x 45 (W x H x D). Also upgradeable on existing analysers.
102469	**MM card, 2 GB,** pre-formatted for use with ecom analysers
56532	**Data cable, USB**
100946	**Set MM card + data cable USB** (at price-attractive rate)
101769	**8-channel analogue output box** for external logging/recording units (V / mA), incl. mains power pack, cable to analyser, RS 232 cable and software (download from www.rbr.de)
100222	**T-Room stick -** H 28 x Ø 11 mm
10166	**T-Room probe** – Length 260 mm with 3 m cable
12019	**Contact sensor, room temperature (PT 2000),** for differential temperature measurement. Range: -20 bis 100°C; resolution: 0,1°C measurement uncertainty: ± 1°C; pipe diameter up to: 100 mm; cable length: 3 m
12021	**Contact sensor, gas temperature (Ni/CrNi),** for differential temperature measurement. Range: -20 bis 100°C; resolution: 0,1°C measurement uncertainty: ± 1°C; pipe diameter up to: 100 mm; cable length: 3 m
100965	**Universal CO multi-hole probe** – telescopic, 80–280 mm
100943	**Universal O$_2$ multi-hole probe** – telescopic (80-280 mm) with three easily exchangeable sealing plugs for measurement openings from Ø 5 to 25 mm
30000460	**Car charger cable** – for instrument battery re-charge via cigarette lighter connection
100920	**Dynamic pressure measurement** - Range: 0-50 m / sec; accuracy: ± 0.2 m/s or ± 1% of measurement value; resolution: 0.1 m/s. Data valid only by use of Prandl / Pitot tube (not included)
30004115	**Dynamic pressure measurement probe, length 250 mm** - Range: up to 3 m / sec; accuracy: ± 2.5% of measuring range final value. With tubing/cable approx. 2.5 m and fixation cone.
100930	**Dynamic pressure measurement probe, length 1000 mm** – Range: up to 3 m / sec; accuracy: ± 2.5% of measuring range final value. With tubing/cable approx. 2.5 m and fixation cone.
100814	**Gas washing bottle** for solid combustibles measurement. For pre-filtering of the dust-soiled gas, gas surface widening thru bubble formation and dilution of sensor-damaging organic compounds (non-suitable for NO$_x$ resp. SO$_2$ measurement)
100813	**Mini filtering plate** - Consisting of water trap, cartridge filtering wool, cartridge silica beads and cartridge hydrocarbon. Incl. connection hoses. Mini filtering plate - Consisting of water trap, cartridge filtering wool, cartridge silica beads and cartridge hydrocarbon. Incl. connection hoses.
20011620	**Filtering case** consisting of water trap, large cartridge filtering wool, cartridge silica beads, cartridge hydrocarbon. Incl. connection hoses.
101254	**Flexible probe tip** with thermocouple, length: 300 mm
102353	**Flexible probe tip** with thermocouple, length: 400 mm

perfect NO$_x$ + SO$_2$ measurement

All in one

Data processing

ecom-EN2-F Engine or Expert version